Conclusions: (1) A history of PA is usually not verified, so many patients are falsely diagnosed. (2) Reserve antibiotics are overused in spite of ß-lactams, resulting in excessive cost and in incorrect antimicrobial use.

P25 Treatment of diabetic foot infections with amoxycillin/clavulanic acid—results of a German multicenter post-marketing surveillance program

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Objectives: Diabetic foot infections account for approximately 20 000 lower extremity amputations in Germany every year. This post-marketing surveillance program was conducted to assess the routine use of antibiotic therapy with amoxycillin /clavulanic acid (AMC) in patients with diabetic foot infections.

Methods: Patients 18 years or older with bacterial diabetic foot infections were observed in 38 German centers according to a surveillance plan. AMC was administered according to German physician circulars. Severity of infection was assessed at the start of and after treatment according to the Wagner score classification.

Results: Of 192 evaluable patients (193 documented), 108 were male and 84 female. The average age was 65 years (range: 35–96). Diabetic foot infection was based on neuropathy in 123 patients, and 57 patients had angiopathic diabetic foot infections (12 patients not assessable). A total of 195 feet with 233 infection localizations were treated. Most of the patients (170 (88.4%) received AMC t.i.d. Initial therapy was either 625 mg oral (83 patients), or 1.2 g (36 patients) or 2.2 g (51 patients) parenteral. Dosage was altered during therapy in 33 patients. However, only in five patients was dosage increased. Duration was 15 days (median) for first-episode treatment and 13.5 days (median) for recurrent infections. At the end of treatment, clinical success was 76.0% (36.5% closed ulcers, 39.6% reduced ulcers). Percentages of patients without symptoms at the end of therapy (baseline: symptoms at therapy start) were: pain 69%, watery drainage 65.1%, purulent material 82.5%, foul odour 80.5%. The average Wagner score was reduced by 1.3 (50%). Of 254 isolated bacteria, 92% were susceptible to AMC. Only six adverse events (mild to moderate) were assessed as being related or probably related to the medication.

Conclusions: Almost all bacterial isolates proved to be susceptible. AMC effectively reduced signs and symptoms in patients with diabetic foot infections and was well tolerated.

Laboratory diagnosis: Automation I

P26 Detection of methicillin resistance in clinical *Staphylococcus aureus* isolates by the Vitek2 system

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Objectives: To evaluate the Vitek2 automated system for the detection of oxacillin-resistant *Staphylococcus aureus*.

Methods: The detection of methicillin resistance (MR) in Vitek2 is based on bacterial growth in the presence of 3 mg/L oxacillin and 2% NaCl (Oxa Screen Test: OST) and MIC determination. The Vitek2 performance was assessed on 60 clinical isolates by comparison with the NCCLS- and CA-SFM-approved agar dilution (AD) method and the search for the *mecA* gene with PCR-RLFP as the reference method. The 60 *S. aureus* strains studied were divided into three phenotypes—homogeneous MR (20), heterogeneous MR (20) and susceptible (MS) (20)—based on the oxacillin disk diffusion method.

Results: Vitek2 oxacillin results were available in less than 4 h for all strains. Forty-two strains were positive for the *mecA* gene, including all MR strains and two MS. The specificity was 100% for the two tests on Vitek2 (OST, MIC) and for all the other methods. The sensitivity was better for Vitek2 (global, 98%; OST, 98%; MIC, 93%) than for the agar dilution methods: 55% for AD at 30°C/24 h, 81% for AD at 5% NaCl/24 h and 79% for AD at 2% NaCl/24 h.

Conclusions: This system represents an effective and accurate means for rapid detection of methicillin resistance in *S. aureus*, including the heterogeneous resistant strains.

P27 Comparison of two automatic methods used to identify microorganisms and determine susceptibility of these microorganisms to antibiotics

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Objectives: To compare two methods of bacterial identification, and two different methods to determine antibiotic susceptibility.

Methods: One hundred different microorganisms isolated from blood cultures of our patients have been studied. Identification systems compared: (1) API system (Bio-Merieux); (2) VITEK system (Bio-Merieux). Susceptibility systems compared: (1) microdilution system on broth (PASCO); (2) EXPERT VITEK (Bio-Merieux). Definition of discordance in susceptibility: when there is a difference in susceptibility to one or more antibiotics between the two methods, and their MICs differ in two or more dilutions.

Results

	IDENTIFICATION		SENSIBILITY	
	Concordances	Discordances	Concordances	Discordances
G (+)	43 (67.18%)	21 (32.81%)	36 (70.58%)	15 (29.41%)
G (-)	23 (100%)	0	13(56.52%)	10 (43.47%)
NFGNB	11 (84.61%)	2 (15.38%)	1 (7.9%)	12 (92.3%)

Streptococcus viridans and *Stenotrophomonas* sp.: it was not possible to determine the susceptibility. The VITEK system does not have the susceptibility card for the *Streptococcus viridans* groups available.

Conclusions: The concordance of the two methods of identification is high; we found better concordance in the Gram-negative group. The higher discordancies between the systems used to determine susceptibility were found in the non-fermenting Gram-negative bacilli (NFGNB) group.

P28 Comparison of two automatic routine methods for antimicrobial susceptibility testing (AST) of non-fermenting Gram-negative rods

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Objective and methods: The antimicrobial susceptibility of 106 non-fermenting Gram-negative rod (NFGNR) clinical isolates (96 *Pseudomonas aeruginosa*, five *P. fluorescens*, four *Chryseobacterium* spp. And one *Burkholderia cepacia*) were simultaneously studied by the PASCO (Difco) and Vitek (bioMérieux) systems. Standard disk diffusion (NCCLS) was used as reference method when relevant discrepancies were observed.

Results: Relevant results (% of isolates) according to NCCLS criteria were:

Antibiotic	Susceptible (S)		Intermediate (I)		Resistant (R)	
	PASCO	VITEK	PASCO	VITEK	PASCO	VITEK
Ticarcillin	70.7	75.5	0	0	29.2	24.5
Cefotaxime	9.4	39.6	---*	---*	90.6	60.4
Ceftazidime	83.0	75.5	2.8	9.4	14.1	15.1
Tobramycin	90.6	90.6	0.9	0.9	8.5	8.5
Amikacin	89.3	79.2	1.9	5.7	11.3	15.1
Ciprofloxacin	85.9	80.2	1.9	0.9	12.2	18.9
Imipenem	81.1	73.6	7.4	6.6	12.3	19.9
Meropenem	89.6	85.9	5.6	5.6	4.7	8.5

*: Intermediate isolates are included in the resistant category

Conclusions: Considering all AST determinations, 79.0% overall agreement was observed. Discrepancies were mainly due to cefotaxime (5.6%) and cefepime (2.4%). With the exception of cefotaxime, the disk diffusion method showed that NFGNR tend to be more resistant to ß-lactams with the Vitek than with the PASCO system, probably due to differences in MIC performance.

P29 Direct identification and susceptibility testing of BACTEC blood culture isolates using the Vitek automated system

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Objectives: To determine whether the identification (ID) and antimicrobial susceptibility (AS) tests on isolates from positive blood cultures in BACTEC resin-containing bottles could be accurately characterized in the Vitek system.

Methods: Over 5 months, all positive-signaling blood culture bottles were removed from the BACTEC 9120 (Becton Dickinson) non-invasive continuous-monitoring machine and Gram-stained. A suspension of organisms was prepared and inoculated into the Vitek (bioMérieux) ID and AS cards. The results were compared with those of conventional laboratory methods.

Results: Thirteen per cent were excluded as mixed cultures on initial Gram stain. Of the remainder, 56% contained Gram-positive bacteria, 36% Gram-negative cocci resembling *Staphylococcus* and 8% yeasts. All the Gram-negative isolates, 100% from *S. aureus* and 83% from coagulase-negative staphylococci (CNS), were correctly identified. The rest of the CNS were unidentified. Ninety-one per cent of Gram-negative isolates and 84% of Gram-positive isolates yielded the correct sensitivity patterns. The average time for ID was 5.1 h for Gram-negative and 12.2 h for Gram-positive organisms. AS results were available within 7.2 h for Gram-negative and 8 h for Gram-positive organisms.

Conclusions: Direct inoculation of Vitek ID and AS cards can provide rapid and reliable results for the majority of isolates causing bacteremia or fungemia.

P30 Evaluation of the OSIRIS Video Reader System for interpretation of disk diffusion susceptibility tests

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Objectives: To evaluate, on a routine basis, the performance of a video-assisted plate reader system for antimicrobial susceptibility testing.

Methods: The Osiris system comprises a camera connected to a computer. The system automatically digitizes and analyzes images of disk diffusion plates. The automatic estimation may be adjusted on the screen by the observer. A set of clinical isolates (204 enterobacteria, 67 non-fermenters, 86 staphylococci and 55 enterococci), isolated in September and October 1998, were tested. The inhibition zone sizes were (1) automatically estimated by the system, and (2) measured by three independent readers using an electronic caliper. The mean of the two first manual measurements (or alternatively the third measurement, when the difference was greater than 3 mm) was used as the reference zone size value.

Results: Among the total of 10 675 organism–drug combinations tested, the difference between the automatic (raw) and reference diameter estimates was less than 3 mm in 90% of the cases. The third reader was required in 458 cases (4.3%). Six hundred and forty-six (6.5%) diameters were adjusted on the screen, 1.3% of which would have induced major changes in the clinical categorization. The comparison between adjusted and reference measurements resulted in 96.1% agreement in clinical categorizations, whereas severe (major and very major) disagreements were found in only 0.4% and 0.6% of the tests performed respectively.

Conclusion: The Osiris system is a convenient and reliable tool for the standardized estimation of inhibition zone sizes, and the clinical interpretation of disk diffusion tests.

P31 Identification of *Enterococcus* spp. and determination of their susceptibility to antimicrobial agents carried out by conventional and automatic methods

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Objectives: To compare identification and susceptibility testing performance for *Enterococcus* spp. using the Vitek system to the speciation results obtained by API 20 Strep and susceptibility to antimicrobial agents evaluated by the reference procedure.

Methods: A total of 68 clinical isolates of enterococci collected from hospitalized patients in 1998 were identified by API 20 Strep gallery (bio-Mérieux), and their susceptibility to antimicrobial agents was determined by the agar dilution method according to the NCCLS guidelines.In parallel, the Vitek Gram-positive identification card (GPI) and the Vitek Gram-positive susceptibility card-101 (GPS-101) were used to test all strains.

Results: Species identification was identical with GPI and Api 20 Strep for 53 (83%) strains. GPI identified *Enterococcus faecalis* correctly in 19 cases (86.36%) and *Enterococcus faecium* in 24 cases (85.71%). Comparison of susceptibility testing by the agar dilution method and GPS-101 cards for MIC results gave the following results: penicillin, 83%; ampicillin, 90.8%; gentamicin, 83.1%; streptomycin, 87.7%; vancomycin, 93.8%; tetracycline, 93.8%; ciprofloxacin, 80.0%.

Conclusions: The Vitek system could be used in routine laboratories; however, additional tests may be needed both for identification (e.g. *E. gallinarum, E. casseliflavus*)

P32 Reliable detection of *vanA, vanB, vanC1* and *vanC2* vancomycin resistance by automated susceptibility testing

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Objectives: Because of their increasing resistance to antimicrobial agents, enterococcal infections require the use of glycopeptide antibiotics. In the past it has been shown that the disk diffusion test does

not accurately detect *vanB* and *vanC* resistance. Up-to-date, genetics-based tests, e.g. for *vanA*, *vanB* and *vanC*, are the gold standard for resistance when the accuracy of susceptibility testing methods, especially with borderline MICs, has to be evaluated.

Methods: We analyzed the accuracy of the VITEK (BioMerieux), an automated susceptibility testing system, for monitoring the resistance to vancomycin. For this purpose we used 132 *Enterococcus* isolates which all were resistant to the relevant antibiotics for enterococci (AMP, SAM, SXT, DO). These strains were analyzed for vancomycin resistance by (1) the disk diffusion plate method, (2) the VITEK (GPS101), (3) the Etest, and (4) PCR for the different *van* genes.

Results: Among the strains tested, 46 isolates carried a *van* resistance gene; 32 were positive for *vanA*, 6 for *vanB*, 8 for *vanC1*, and 4 for *vanC2*. As described elsewhere, the disk diffusion plate detected only the *vanA* resistance. Using the VITEK, the *vanB*-mediated resistance was either intermediate or resistant in dependence on the MIC; all *vanC1/vanC2*-mediated resistance was detected and shown to be intermediate. These results were confirmed with the Etest.

Conclusion: The VITEK system is a reliable system to detect low-level

vancomycin resistance in enterococci mediated by the *vanB* and *vanC1/C2* genes.

P33 Evaluation of the Vitek2 system for antimicrobial susceptibility testing of methicillin-resistant *Staphylococcus aureus*

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Objective: To assess the accuracy of the Vitek2 instrument for susceptibility testing of methicillin-resistant *Staphylococcus aureus* (MRSA).

Methods: A set of 197 MRSA isolates (62 hospitals) was selected from a 1997 national survey collection. Detection of oxacillin resistance was compared with the oxacillin agar screen and PCR for the *mecA* gene. The susceptibility level to 13 antimicrobials was compared with MIC results obtained with the NCCLS agar dilution method. The different clones circulating in Belgium were tested, including clone 1 (39%), multiresistant, and clone 2 (38%), more susceptible to aminoglycosides and macrolides–lincosamides.

Results : The Vitek2 system detected correctly 195 of 197 (99%) MRSA strains on first testing. One additional isolate was flagged by the Advanced Expert System because of growth in the 'oxacillin control' well. In repeat testing of 2 isolates first reported to be susceptible, these were determined to be resistant, resulting in a detection sensitivity of 100%. Other very major discrepancies were only observed with ofloxacin (1%). Major errors occurred for rifampin (13.2%), tobramycin and tetracycline (0.5% each). Minor discrepancies ranged from 0.5% to 15.7% for quinupristin/dalfopristin, gentamicin, ofloxacin, erythromycin, tobramycin and rifampin, in increasing order. Discrepancies for rifampin resistance detection were related to a subpopulation of strains classified as borderline susceptible or intermediate by agar dilution and as intermediate or resistant by the Vitek2 system.

Conclusion : The Vitek2 system showed adequate accuracy for detection of oxacillin-resistant and multidrug-resistant *S. aureus* isolates currently prevalent in Belgium.

P34 Comparison of MicroScan Dried Overnight Gram-positive Panel to a NCCLS reference panel for amoxycillin, kanamycin, tobramycin, kanamycin synergy screen and netilmicin in a multicenter study

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A multicenter study was conducted to assess the performance of amoxycillin (AMX), kanamycin (KAN), tobramycin (TO), kanamycin synergy screen (KS) and a new formulation of netilmicin (NT) on MicroScan Dried Overnight (Conventional) Gram-positive Panels, as compared to a frozen NCCLS broth microdilution panel. The clinical study was conducted at two sites and consisted of two phases: (1) efficacy,. and (2) challenge. To assess efficacy, 118 fresh clinical isolates were tested. Results were analyzed with all 188 isolates for AMX; with 105 staphylococci, enterococci, and *Listeria* isolates for KAN, TO, and NT; and with 58 enterococci and streptococci isolates for KS. An additional 30 isolates from the Centers for Disease Control with a variety of resistance profiles were tested at each site during the challenge phase of the study. Results with each antimicrobial were analyzed using interpretive breakpoints recommended by the Societe Francaise de Microbiologie. During efficacy testing, essential agreement (±1 doubling dilution) between the MicroScan test panel and the reference method was 99% (117/118) for AMX, 100% (105/105) for KAN, 99% (104/105) for TO, 100% (58/58) for KS, and 100% (105/105) for NT. During challenge testing, essential agreement was 100% for all antimicrobials. The performance of AMX, KAN, TO, KS and NT on MicroScan Dried Overnight Gram-positive Panels gave excellent correlation when compared to NCCLS reference methods.

P35 Evaluation of MicroScan Dried MICroFAST (MICroSTREP *plus*) Panel compared to a NCCLS reference panel for fresh clinical isolates of *Haemophilus* species

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A multicenter evaluation assessed a new MicroScan Dried Overnight Panel, MICroFAST (MICroSTREP *plus*), as compared to a frozen NCCLS reference broth microdilution method, for fresh clinical isolates of *Haemophilus* spp. When available, results for each antimicrobial were analyzed using interpretive breakpoints recommended by the Deutsches Institut fur Normung (DIN); otherwise, NCCLS or Societe Francaise de Microbiologie (SFM) breakpoints were used. Fifty-four isolates of *Haemophilus* spp.. including 48 *H. influenzae* and 6 *H. parainfluenzae,* were evaluated with 21 antimicrobials. Essential agreement (±1 doubling dilution) was 93% with each of the 21 antimicrobial agents. The essential agreement for rifampin was 78% (40/51); however, categorical agreement was 98% with one minor error. Major and very major errors were less than 3% for all 21 antimicrobials. The performance of the MICroFAST (MICroSTREP *plus*) panel for susceptibility testing of fresh clinical isolates of *Haemophilus* spp. shows good correlation in comparison to a frozen reference microdilution panel.

P36 Multicenter evaluation of MicroScan Dried MICroFAST (MICroSTREP *plus*) Panel compared to a NCCLS reference panel for *Streptococcus* spp., including *S. pneumoniae*

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The performance of a new MicroScan Dried Overnight Panel, MICroFAST (MICroSTREP *plus*) was compared to that of a frozen NCCLS reference broth microdilution method in a multicenter evaluation. Twenty-seven antimicrobials were evaluated and all tests were incubated in ambient air. The clinical study was conducted at four sites and consisted of two phases: efficacy and challenge. When available, results with each antimicrobial were analyzed using interpretive breakpoints recommended by the Deutsches Institut fur Normung (DIN); otherwise, NCCLS or Societe Francaise de Microbiologie (SFM) breakpoints were used. Two hundred and ninety-seven isolates consisting of 91 *S. pneumoniae* and 206 other streptococci were tested during the efficacy phase. Essential agreement (±1 doubling dilution) between the two systems was greater than 92% with each of the 27 antimicrobial agents. The very major error rate was less than 3% for all antimicrobials except clindamycin (3.8%) with *S. pneumoniae*. Major error rates were less than 3% for all 27 antimicrobials. During the challenge phase, 53 *S. pneumoniae* isolates, obtained from the CDC, were tested at two sites. Essential agreement during the challenge phase was 90% for 26/27 antimicrobials. Essential agreement for clarithromycin was 86%. The performance of the MICroFAST (MICroSTREP *plus*) panel for susceptibility testing of streptococci demonstrates good correlation in comparison to a frozen reference microdilution panel.

P37 Detection of oxacillin resistance in *Staphylococcus* species with the Phoenix System

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Objectives: The Phoenix System (Becton Dickinson and Company) was compared to the standard broth microdilution (SBM) and agar disk diffusion (DD) methods, as well as to oxacillin screen agar (OSA), for detection of oxacillin resistance in staphylococci.

Methods: One hundred and ninety-eight staphylococcal isolates (143 *S. aureus* (SA) and 55 coagulase-negative staphylococci (CNS)), were tested for determination of the minimal inhibitory concentration of oxacillin (OX) in four systems: Phoenix, SBM, DD and OSA.

Results: The essential accord (EA) of Phoenix with all *Staphylococcus* species to SBM was 94.5%, with one very major error (VME) and five major errors (ME). Categorical agreement (CA) with SBM was 97.5%. Repeat testing in triplicate of the initial discrepant results improved the overall EA to 97.5% and CA to 98.9% with one (1.1%) VME and one (0.9%) ME. EA for SA alone was 96.5%. The mean time to results was 5.1 h (3.7–10 h) for SA, and 6.9 h (4.3–9 h) for all CNS. For 76 SBM-susceptible SA strains, using the NCCLS two-step criteria (confirmation of susceptible SA with OSA), CA was 98.7% with no VME and one ME. Comparison of the Phoenix OX to OSA and DD yielded CA of 90.1% and 83.8%, respectively.

Conclusions: The new Phoenix System provides accurate, single-step detection of oxacillin resistance in *Staphylococcus* species, and is a rapid alternative to the two-step method using SBM and OSA.

P38 Rapid detection of beta-lactamase production in penicillin-sensitive *Staphylococcus* species by the Phoenix Automated ID/AST system

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Objective: Evaluation of the Phoenix Automated ID/AST Prototype System for reliability and early detection of beta-lactamase activity in *Staphylococcus* species.

Methods: A challenge set comprising 63 *Staphylococcus aureus* (SA) and 32 coagulase-negative staphylococcal (CNS) isolates from a variety of sources that included ATCC, CDC as well as patient specimens were used in this evaluation. All strains were tested by Cefinase Plus disk (BDMS) for the presence of beta-lactamase activity (after induction by oxacillin) and additionally for penicillin resistance by the NCCLS recommended standard broth microdilution (SBM) method. Test results from the Phoenix System were compared to results from the reference methods for correlation.

Results: Sixty-six strains (47 SA and 19 CNS) were determined to be beta-lactamase positive by the Cefinase Plus disk procedure. Thirteen of these beta-lactamase-positive strains were determined to be sensitive to penicillin by SBM. Through continuous monitoring of both growth in the presence of beta-lactams and hydrolysis of an optimized chromogenic substrate, the Phoenix System accurately identified all beta-lactamase-producing strains. Time to detection for 90% of the beta-lactamase-positive isolates was 2 h and 5 h for all test isolates. No error was observed for the tested isolates.

Conclusion: The Phoenix System can accurately and rapidly determine beta-lactamase production among *Staphylococcus* species with a high level of sensitivity and specificity

P39 Performance of newer quinolones and other agents in the Sceptor system

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Objectives: To evaluate the efficacy of the Sceptor System (BD Microbiology Systems) in determining susceptibility of clinically relevant, non-fastidious aerobic bacteria to new antimicrobial agents.

Methods: Sceptor panels containing eight new antimicrobial formulations including some of the newer fluoroquinolones were compared to the NCCLS recommended standard broth microdilution (SBM) method. Two hundred and eighty-two bacterial strains representing 15 genera were used in the study.

Results: Overall essential agreement (EA) for all antimicrobials was greater than 94%. The percentage agreement for each of the eight antimicrobial agents ranged from 94% to 98% (levofloxacin 95%, lomefloxacin 98%, clinafloxacin 95%, ciprofloxacin 94%, cefditoren 94%, cefprozil 97%, teicoplanin 97%, and quinupristin/dalfopristin 98%). For agents with established interpretive criteria, the major error (ME) rate was less than 3%. Where very major errors (VME) were observed, the rate did not exceed 1%. Reproducibility in testing ranged from 90% to 100% for the agents tested.

Conclusions: The Sceptor System demonstrates excellent correlation with SBM for these antimicrobial agents and provides an acceptable option for susceptibility testing of clinically relevant non-fastidious bacteria.

P40 Simple bacteriologic LIS

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Objectives: There was a painful lack of simple bacteriologic software on the Polish market until last year. Existing programs were very complicated, and thus hard to maintain and very expensive. The decision has been made to create Polish bacteriologic software.

Methods: A data model describing workflow in bacteriologic laboratories has been created based on the MS Access relational database. For this data model, a user-friendly interface has been designed. Communication modules that service data exchange between the bacteriologic database and external devices like BacT/Alert and BioMIC have also been created. A built-in language manager module makes it possible and very easy to translate the software into other languages.

Results: Using the software has significantly improved the work organization in the laboratory, reducing the time spent on laboratory documentation. An analysis program makes it possible to obtain a variety of bacteriologic and epidemiologic data quickly, including graphic presentations.

Conclusions: Simple LIS has modest hardware requirements and it is designed for the most popular operating system (Windows 95), so running it makes sense in both small and large bacteriologic laboratories.

P41 Accuracy of antibiograms performed directly from urine incubation bottles of the SEBAC automatic system

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Objectives: The SEBAC automatic system allows rapid determination of bacteriuria (less than 4 h). We compared the antibiograms obtained directly from SEBAC incubation bottles with these performed after isolation on agar.

Methods: Only monomicrobial urine samples (containing more than 5×10^4 leukocytes and more than 10^5 Gram-negative bacilli per mL) were used for the study. Antibiograms were realized by the agar diffusion method on 46 strains (35 *E. coli*, 5 *Klebsiella*, 4 *Proteus mirabilis*, 1 *Citrobacter freundii*, 1 *Entrobacter cloacae)* using two methods of inoculum preparation: (1) SEBAC broth (containing 3×10^8 to 4×10^9 CFU/mL after incubation for 195 min) diluted 1:400 in sterile water; (2) suspension of one colony in 5 mL sterile water diluted 1:15. Twenty-six antibiotics were so tested (13 ß-lactams, 5 aminoglycosides, 3 quinolones).

Results: Comparing both techniques, the mean diameter variation varied from -2.0 to 0.1 mm depending on the antibiotics tested, and the clinical categorizations (according to CASEM recommendations) were identical for 1168 of the 1196 tests (97.7%) (one test corresponds to one antibiotic for one strain). Only minor discrepancies were observed for the 28 remaining tests (mainly S—>I). Twenty of them were linked to the presence of a low-level resistance mechanism. In 10 of these cases the clinical categorization obtained using SEBAC broth dilution as inoculum was in agreement with the phenotypic interpretation of the microbiologist.

Conclusion: Antibiograms realized from SEBAC system broths are equivalent to those obtained with the usual technique. This allows us to obtain antibiogram results within 24 h following urine sampling, allowing early antibiotherapy adaptation.

P42 Evaluation of SIRSCAN Automatic System versus manual methods for antibiogram reading on blood or chocolate agar

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Objectives: The performance of the automatic reader SIRSCAN adapted to antibiogram reading on blood or chocolate agar was evaluated by comparison with the manual method.

Methods: Antibiograms of *Streptococcus pneumoniae* (PNO) (8 strains), ß-hemolytic streptococci (ßHS) (11 group A, 7 group B) and non-hemolytic streptococci (NHS) (23 strains), performed on blood agar, and of *Haemophilus influenzae* (HI) (7 strains), performed on chocolate agar, were read by both methods (SIRSCAN system and manual reading of inhibition zone diameters using a sliding caliper). We studied the reading duration and the accuracy of the automatic reader, in terms of discrepancies of clinical categorization (DIS) and mean diameter variations (MDV), by comparison with the manual method considered as reference.

Results: The mean duration of the SIRSCAN reading for one antibiogram varied from 20 to 35 s, depending on the species tested, versus 83 to 99 s for the manual reading successively practiced by 12 technicians. The numbers of minor, major and very major DIS and the MDV (mm) were, respectively, 3, 7, 0 and 2,0 for PNO (127 tests), 39, 10, 1 and -1.75 for ßHS (287 tests), 35, 19, 0 and -0.9 for NHS (368 tests), and 9, 3, 0 and -2.4 for HI (77 tests) (one test corresponds to one antibiotic tested against one strain).

Conclusion: The SIRSCAN automatic system is able to read antibiograms on blood and chocolate agar much faster than a technician, with a low variation of diameter measures with regard to the manual reading. Also, discrepancies between the two methods seem to be low enough to permit the use of the SIRSCAN system for routine bacteriology.

Mycobacteria–Tbc I

P43 Comparison of BACTEC MGIT 960 with BACTEC 460 and solid media for detection of mycobacteria in clinical specimens in clinical laboratory

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Objectives: Evaluation of the BACTEC MGIT 960 with BACTEC 460 and solid media for recovery of mycobacteria from clinical specimens in the clinical laboratory.

Methods: Four hundred and ninety-nine clinical specimens were investigated by BACTEC MGIT 960 and BACTEC 460 and two solid media (Löwenstein–Jensen), one medium with glycerin, and the other without.

Results: Eighty-five strains were detected (*M. tuberculosis*, 80; MOTT, 5). BACTEC MGIT 960 and solid media recovered 68 of the strains, and BACTEC 460 and solid media recovered 69. The mean times to detection of *M. tuberculosis* for smear-positive specimens were 8.3 days with BACTEC MGIT 960, 9.2 days with BACTEC 460, and 21.5 days with solid media. The smear-negative specimens needed 15.4, 15.5 and 27.2 days with the three methods, respectively.

Conclusions: The study indicates that BACTEC MGIT 960 may be used as an alternative to BACTEC 460 for detection of mycobacteria in laboratories.